



CHAPTER 15

Government Debt

MACROECONOMICS SIXTH EDITION

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PowerPoint® Slides by Ron Cronovich

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In this chapter, you will learn...

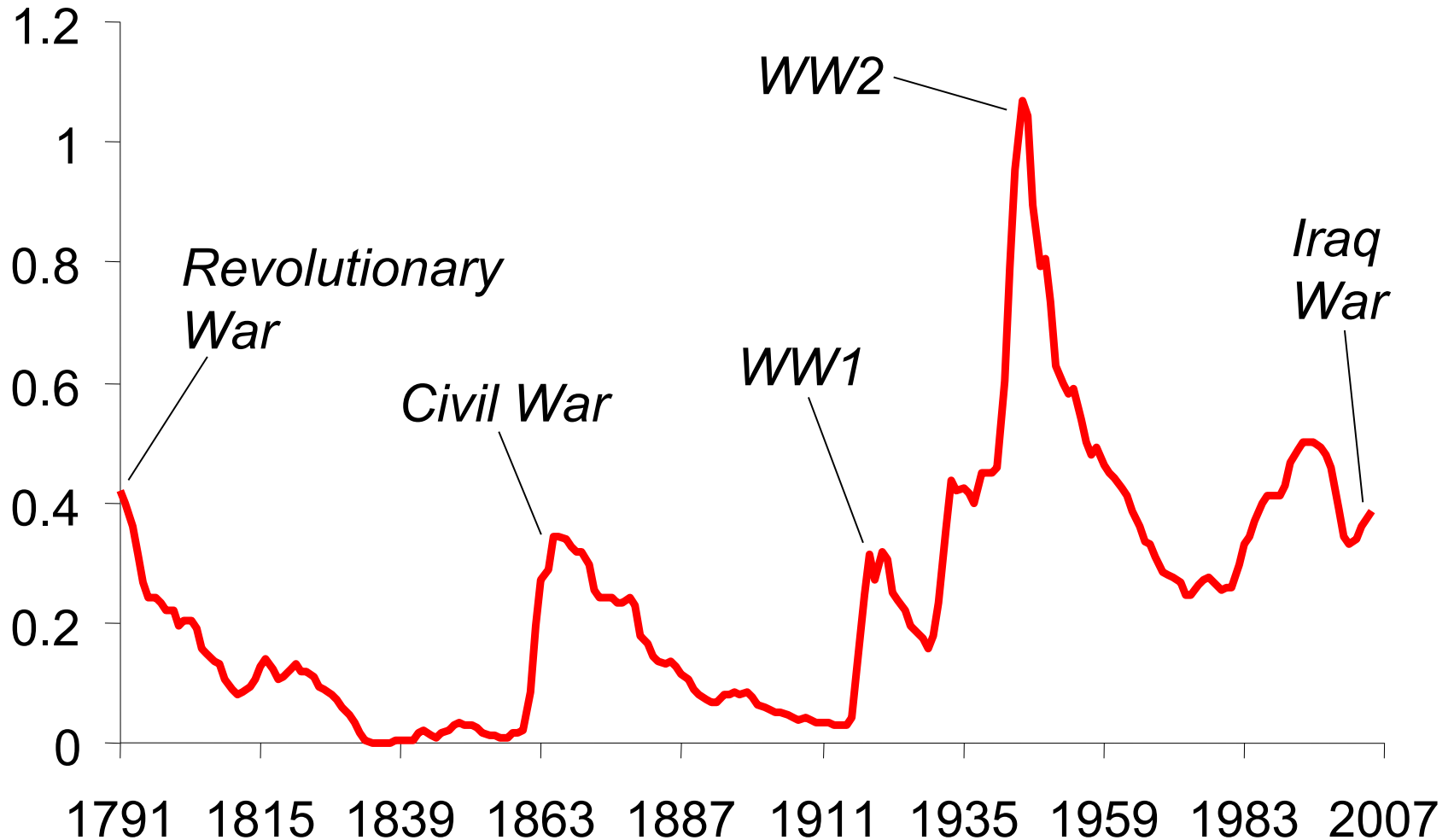
- about the size of the U.S. government's debt, and how it compares to that of other countries
- problems measuring the budget deficit
- the traditional and Ricardian views of the government debt
- other perspectives on the debt

Indebtedness of the world's governments

<i>Country</i>	<i>Gov Debt</i> (% of GDP)	<i>Country</i>	<i>Gov Debt</i> (% of GDP)
Japan	159	U.S.A.	64
Italy	125	Sweden	62
Greece	108	Finland	53
Belgium	99	Norway	52
France	77	Denmark	50
Portugal	77	Spain	49
Germany	70	U.K.	47
Austria	69	Ireland	30
Canada	69	Korea	20
Netherlands	64	Australia	15



Ratio of U.S. govt debt to GDP





The U.S. experience in recent years

Early 1980s through early 1990s

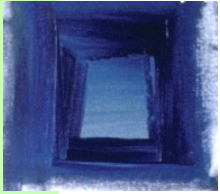
- debt-GDP ratio: 25.5% in 1980, 48.9% in 1993
- due to Reagan tax cuts, increases in defense spending & entitlements

Early 1990s through 2000

- \$290b deficit in 1992, \$236b surplus in 2000
- debt-GDP ratio fell to 32.5% in 2000
- due to rapid growth, stock market boom, tax hikes

Since 2001

- the return of huge deficits, due to Bush tax cuts, 2001 recession, Iraq war



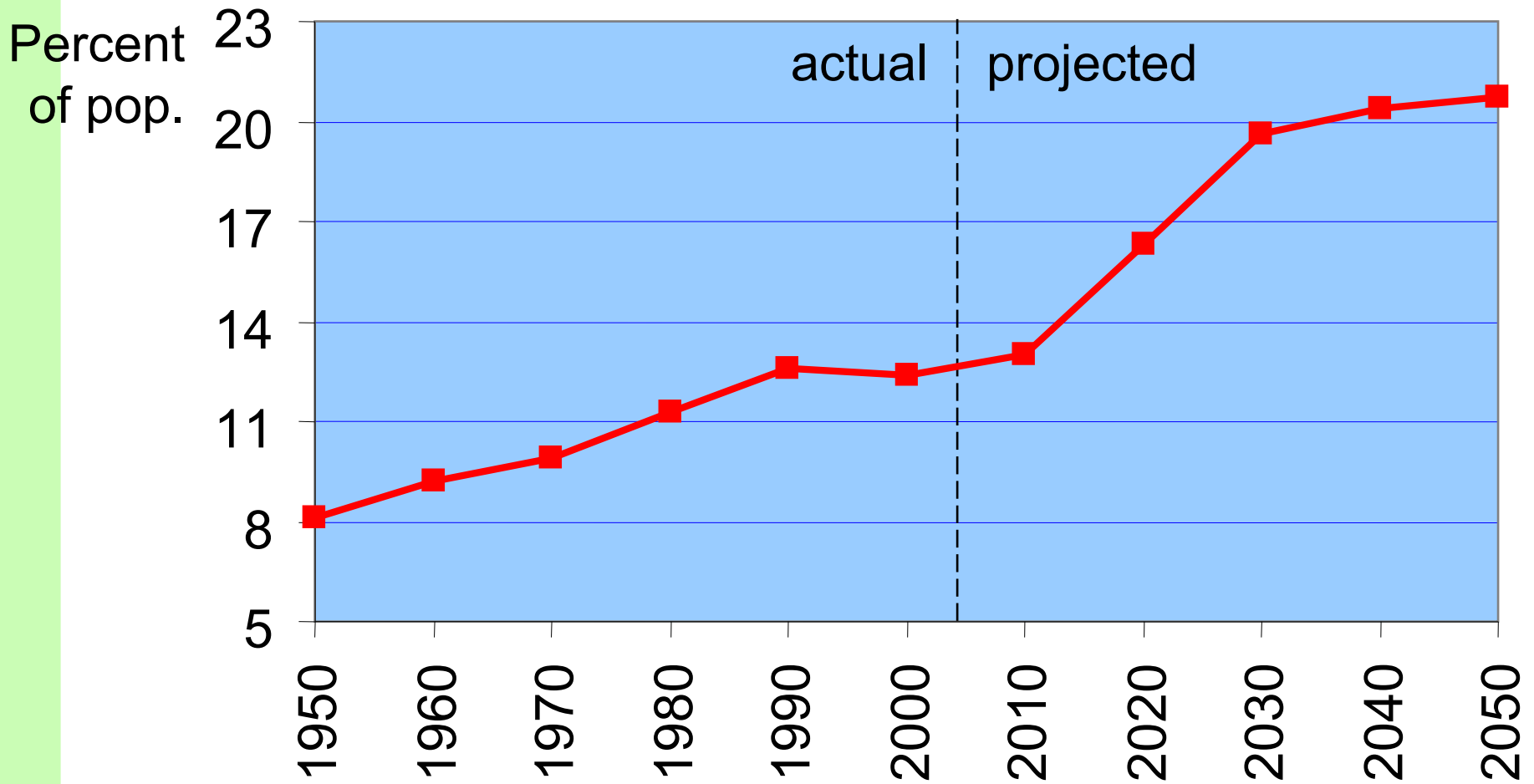
The troubling fiscal outlook

- The U.S. population is aging.
- Health care costs are rising.
- Spending on entitlements like Social Security and Medicare is growing.
- Deficits and the debt are projected to significantly increase...



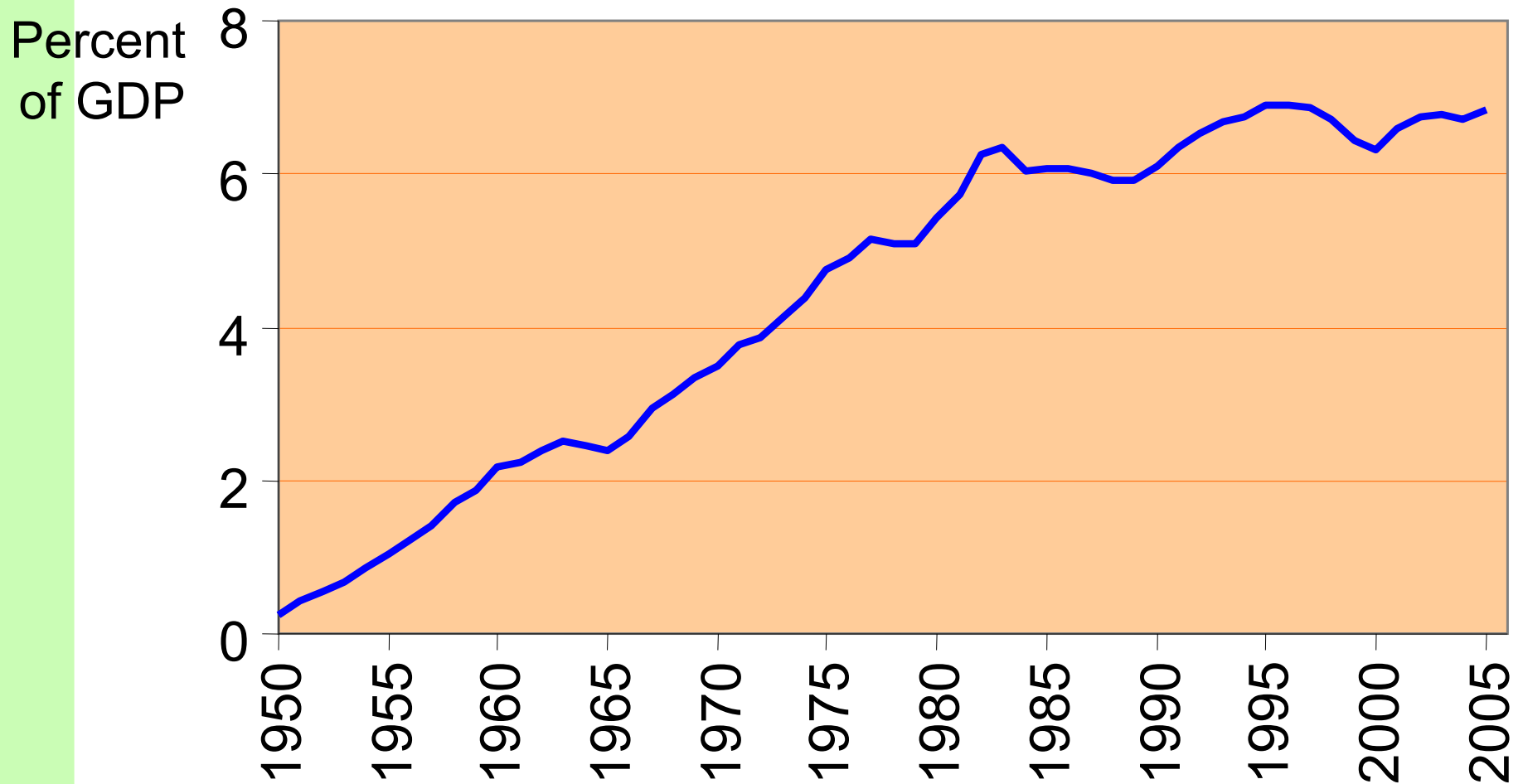


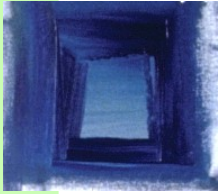
Percent of U.S. population age 65+



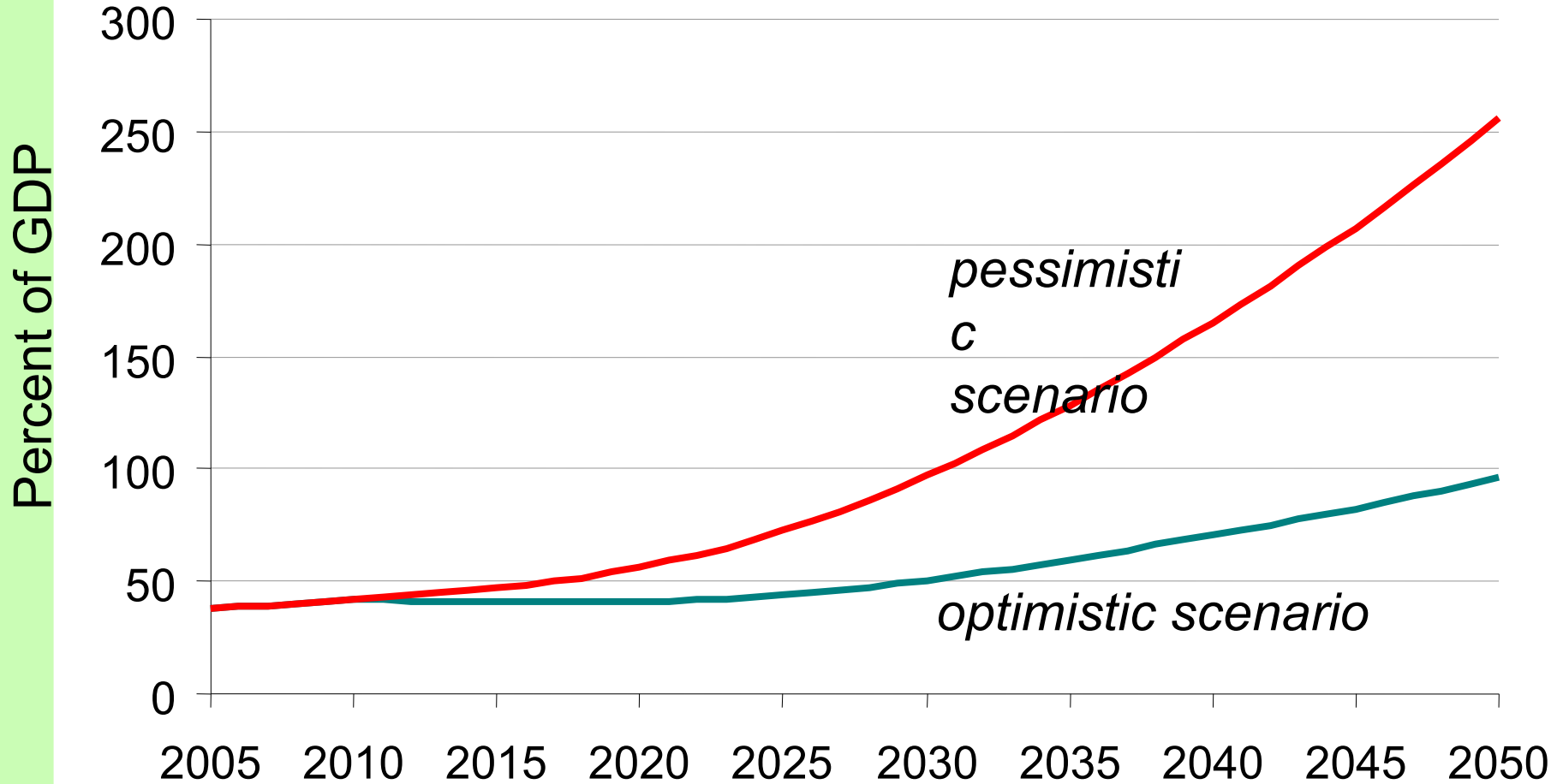


U.S. government spending on Medicare and Social Security





CBO projected U.S. federal govt debt in two scenarios





Problems measuring the deficit

1. Inflation
2. Capital assets
3. Uncounted liabilities
4. The business cycle



MEASUREMENT PROBLEM 1: Inflation

- Suppose the real debt is constant, which implies a zero real deficit.
- In this case, the nominal debt D grows at the rate of inflation:

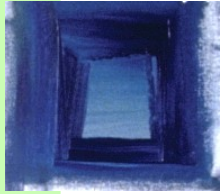
$$\Delta D/D = \pi \quad \text{or} \quad \Delta D = \pi D$$

- The reported deficit (nominal) is πD even though the real deficit is zero.
- Hence, should subtract πD from the reported deficit to correct for inflation.



MEASUREMENT PROBLEM 1: Inflation

- Correcting the deficit for inflation can make a huge difference, especially when inflation is high.
- Example: In 1979,
 - nominal deficit = \$28 billion
 - inflation = 8.6%
 - debt = \$495 billion
 - $\pi D = 0.086 \times \$495\text{b} = \43b
 - real deficit = \$28b – \$43b = **\$15b surplus**



MEASUREMENT PROBLEM 2: Capital Assets

- Currently, deficit = change in debt
- Better, **capital budgeting**:
deficit = (change in debt) – (change in assets)
- EX: Suppose govt sells an office building and uses the proceeds to pay down the debt.
 - under current system, deficit would fall
 - under capital budgeting, deficit unchanged, because fall in debt is offset by a fall in assets.
- Problem w/ cap budgeting: Determining which govt expenditures count as capital expenditures.



MEASUREMENT PROBLEM 3: Uncounted liabilities

- Current measure of deficit omits important liabilities of the government:
 - future pension payments owed to current govt workers.
 - future Social Security payments
 - contingent liabilities, *e.g.*, covering federally insured deposits when banks fail
(Hard to attach a dollar value to contingent liabilities, due to inherent uncertainty.)



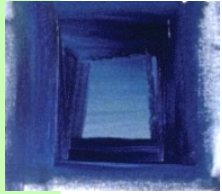
MEASUREMENT PROBLEM 4: The business cycle

- The deficit varies over the business cycle due to automatic stabilizers (unemployment insurance, the income tax system).
- These are not measurement errors, but do make it harder to judge fiscal policy stance.
 - *E.g.*, is an observed increase in deficit due to a downturn or an expansionary shift in fiscal policy?

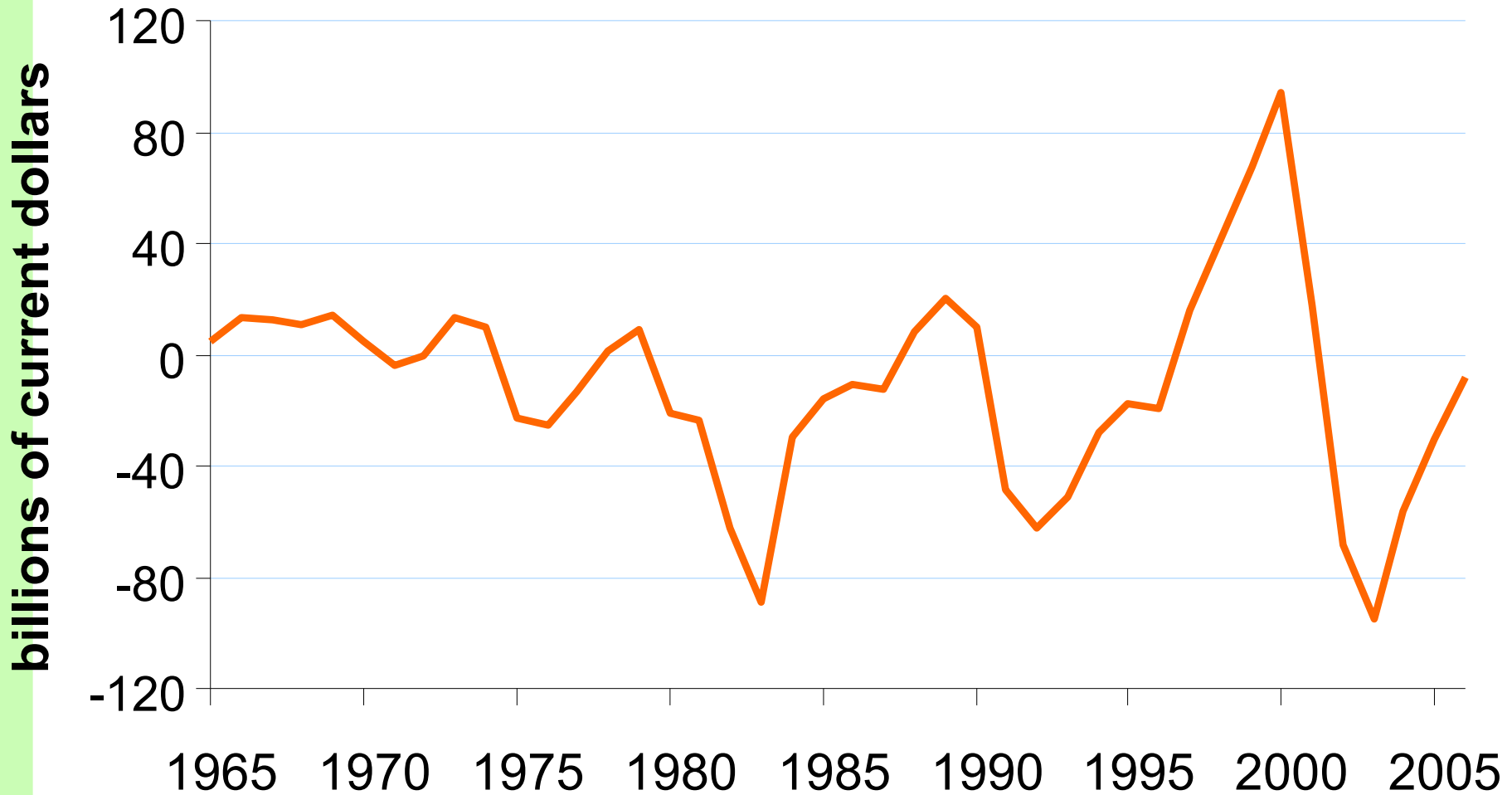


MEASUREMENT PROBLEM 4: The business cycle

- Solution: **cyclically adjusted budget deficit** (aka “full-employment deficit”) – based on estimates of what govt spending & revenues would be if economy were at the natural rates of output & unemployment.



The cyclical contribution to the U.S. Federal budget





The bottom line

*We must exercise care
when interpreting
the reported deficit figures.*



Is the govt debt really a problem?

Consider a tax cut with corresponding increase in the government debt.

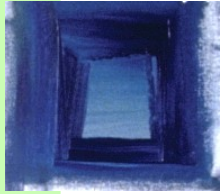
Two viewpoints:

1. Traditional view
2. Ricardian view



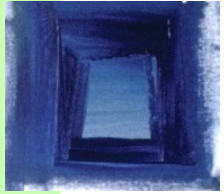
The traditional view

- Short run: $\uparrow Y, \downarrow u$
- Long run:
 - Y and u back at their natural rates
 - closed economy: $\uparrow r, \downarrow I$
 - open economy: $\uparrow \varepsilon, \downarrow NX$
(or higher trade deficit)
- Very long run:
 - slower growth until economy reaches new steady state with lower income per capita



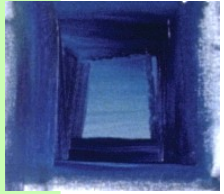
The Ricardian view

- due to David Ricardo (1820), more recently advanced by Robert Barro
- According to **Ricardian equivalence**, a debt-financed tax cut has no effect on consumption, national saving, the real interest rate, investment, net exports, or real GDP, even in the short run.



The logic of Ricardian Equivalence

- Consumers are forward-looking, know that a debt-financed tax cut today implies an increase in future taxes that is equal – in present value – to the tax cut.
- The tax cut does not make consumers better off, so they do not increase consumption spending. Instead, they save the full tax cut in order to repay the future tax liability.
- Result: Private saving rises by the amount public saving falls, leaving national saving unchanged.



Problems with Ricardian Equivalence

- **Myopia:** Not all consumers think so far ahead, some see the tax cut as a windfall.
- **Borrowing constraints:** Some consumers cannot borrow enough to achieve their optimal consumption, so they spend a tax cut.
- **Future generations:** If consumers expect that the burden of repaying a tax cut will fall on future generations, then a tax cut now makes them feel better off, so they increase spending.



Evidence against Ricardian Equivalence?

Early 1980s:

Reagan tax cuts increased deficit.

National saving fell, real interest rate rose, exchange rate appreciated, and ***NX*** fell.

1992:

Income tax withholding reduced to stimulate economy.

- This delayed taxes but didn't make consumers better off.
- Almost half of consumers increased consumption.



Evidence against Ricardian Equivalence?

- Proponents of R.E. argue that the Reagan tax cuts did not provide a fair test of R.E.
 - Consumers may have expected the debt to be repaid with future spending cuts instead of future tax hikes.
 - Private saving may have fallen for reasons other than the tax cut, such as optimism about the economy.
- Because the data is subject to different interpretations, both views of govt debt survive.



OTHER PERSPECTIVES: **Balanced budgets vs. optimal fiscal policy**

- Some politicians have proposed amending the U.S. Constitution to require balanced federal govt budget every year.
- Many economists reject this proposal, arguing that deficit should be used to
 - stabilize output & employment
 - smooth taxes in the face of fluctuating income
 - redistribute income across generations when appropriate

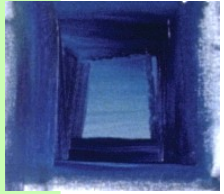


OTHER PERSPECTIVES: Fiscal effects on monetary policy

- Govt deficits may be financed by printing money
- A high govt debt may be an incentive for policymakers to create inflation (to reduce real value of debt at expense of bond holders)

Fortunately:

- little evidence that the link between fiscal and monetary policy is important
- most governments know the folly of creating inflation
- most central banks have (at least some) political independence from fiscal policymakers



OTHER PERSPECTIVES: Debt and politics

“Fiscal policy is not made by angels...”

– N. Gregory Mankiw, p.449

- Some do not trust policymakers with deficit spending. They argue that
 - policymakers do not worry about true costs of their spending, since burden falls on future taxpayers
 - since future taxpayers cannot participate in the decision process, their interests may not be taken into account
- This is another reason for the proposals for a balanced budget amendment (discussed above).



OTHER PERSPECTIVES: International dimensions

- Govt budget deficits can lead to trade deficits, which must be financed by borrowing from abroad.
- Large govt debt may increase the risk of capital flight, as foreign investors may perceive a greater risk of default.
- Large debt may reduce a country's political clout in international affairs.

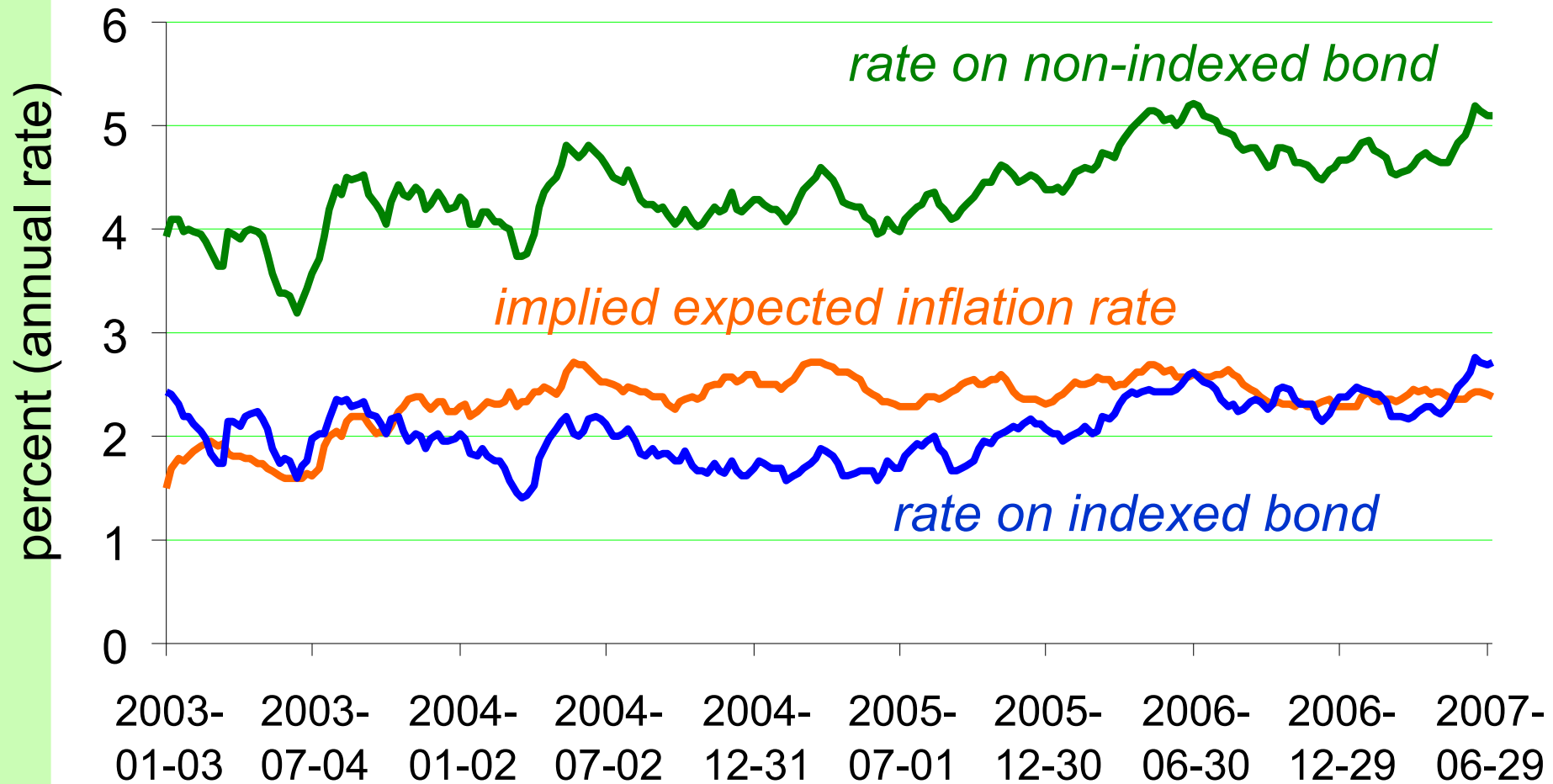


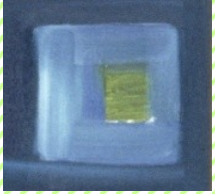
CASE STUDY: Inflation-indexed Treasury bonds

- Starting in 1997, the U.S. Treasury issued bonds with returns indexed to the CPI.
- Benefits:
 - Removes **inflation risk**, the risk that inflation – and hence real interest rate – will turn out different than expected.
 - May encourage private sector to issue inflation-adjusted bonds.
 - Provides a way to infer the expected rate of inflation...



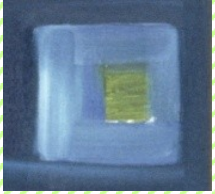
CASE STUDY: Inflation-indexed Treasury bonds





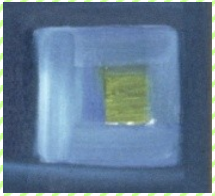
Chapter Summary

1. Relative to GDP, the U.S. government's debt is moderate compared to other countries
2. Standard figures on the deficit are imperfect measures of fiscal policy because they
 - are not corrected for inflation
 - do not account for changes in govt assets
 - omit some liabilities (e.g., future pension payments to current workers)
 - do not account for effects of business cycles



Chapter Summary

3. In the traditional view, a debt-financed tax cut increases consumption and reduces national saving. In a closed economy, this leads to higher interest rates, lower investment, and a lower long-run standard of living. In an open economy, it causes an exchange rate appreciation, a fall in net exports (or increase in the trade deficit).
4. The Ricardian view holds that debt-financed tax cuts do not affect consumption or national saving, and therefore do not affect interest rates, investment, or net exports.



Chapter Summary

5. Most economists oppose a strict balanced budget rule, as it would hinder the use of fiscal policy to stabilize output, smooth taxes, or redistribute the tax burden across generations.
6. Government debt can have other effects:
 - may lead to inflation
 - politicians can shift burden of taxes from current to future generations
 - may reduce country's political clout in international affairs or scare foreign investors into pulling their capital out of the country